

REMARKS/ARGUMENTS

Claims 7-16 were rejected under 35 U.S.C. §103(a) over Inoue et al. in view of Hasebe et al. Reconsideration is requested.

A substrate processing apparatus as described in claim 7 of the present application is characterized by comprising a rinse liquid supply means for supplying a rinse liquid to a substrate retained by substrate retaining means and anti-drying solution supply means for supplying an anti-drying solution which is different from the rinse liquid to the substrate retained by the substrate retaining means.

Further, a substrate processing apparatus described in claim 9 of the present application is characterized by comprising anti-drying solution supply means for supplying an anti-drying solution which is different from a rinse liquid to a substrate retained by substrate retaining means and wet with the rinse liquid.

On the contrary, according to the invention described in Inoue et al., after developed with a developing solution in a wet processing apparatus 1, a substrate is rinsed with the rinse liquid (deionized water), wet-transported to a drying apparatus 2 without spin drainage of the rinse liquid adhered to the substrate, and supplied with the deionized water only in the drying apparatus 2.

That is, the rinse liquid is just used as the anti-drying solution to prevent the substrate from drying by wet-transportation, and it is not true that the anti-drying solution supply means, separately from the rinse liquid supply means, is comprised in the substrate processing apparatus, nor that the rinse liquid adhered to the substrate retained by the substrate retaining means is replaced with the anti-drying solution which is different from the rinse liquid.

In addition, since the present invention is different in structure from the cited invention, it is possible to achieve the following favorable effects which are never achieved in the cited invention. According to the present invention, the substrate is prevented from damage due to the drying of the substrate by using the anti-drying solution which is different from the rinse liquid, which allows selection of a kind of rinse liquid in accordance with the intended process. On the other hand, regardless of what kind of rinse liquid is selected, it is possible to dry the substrate

effectively, since the anti-drying solution, which is different from the rinse liquid, is supplied to the substrate.

Meanwhile, Hasebe et al. discloses means for developing solution supply and rinse liquid supply to a substrate retained by substrate retaining means, but, never discloses anti-drying solution supply means for supplying an anti-drying solution which is different from the rinse liquid as described in the present invention. Therefore, even if the inventions described in Inoue et al. and Hasebe et al. were combined, it is impossible to motivate the idea of preventing the substrate from damage due to drying, and allowing for the selection of the kind of rinse liquid in accordance with the intended process.

Therefore, allowance of claims 1-16 is requested.

Claims 17, 18 and 20 were rejected under 35 U.S.C. §103(a) over Inoue et al. and Hasebe et al. Claim 19 was rejected with the addition of a third reference, Jagannathan et al.

The invention described in claim 17 is characterized in that each of a plurality of developing units for performing different developing processes for a substrate, respectively, includes developing solution supply means for supplying a developing solution to the substrate, and rinse liquid supply means for supplying a replacing solution which is different from the rinse liquid supplied to the substrate thereby replacing the rinse liquid with the replacing solution.

On the contrary, a developing unit of Inoue et al. never discloses a replacing solution supply means for supplying a replacing solution which is different from a rinse liquid to a substrate thereby replacing the rinse liquid with the replacing solution (the process of “coating” described in paragraph 27 is completely different from the replacing process, and there are no suggestions with regard to replacing the rinse liquid with the replacing solution after the developing and rinsing).

Hasebe et al. discloses a plurality of developing units, but each developing unit only comprises developing solution supply means and rinse liquid supply means. Thus, the present invention is clearly different from these cited inventions in its structure on the point that each of the plurality of developing units includes the replacing solution supply means, separately from the developing solution supply means and the rinse liquid supply means, thereby replacing the rinse liquid with the replacing solution which is different from the rinse liquid.

For this reason, according to the apparatus described in the cited references, it is necessary to provide special transport units corresponding to the individual developing contents (e.g., an alkaline-development transport unit for transporting an alkaline developed substrate, an organic development transport unit for transporting an organically developed substrate, and the like). On the contrary, according to the present invention, the substrate can be transported to a common high-pressure processing unit by the common transport unit without regard to either developing unit is used for the developing process. In other words, regardless of which kind of rinse liquid is used, the transport unit and the high-pressure processing unit can be used commonly since the rinse liquid is replaced with the replacing solution which is different from the rinse liquid.

Therefore, allowance of claims 17-20 is requested.

Claims 21-24 were rejected under 35 U.S.C. §103(a) over the three foregoing references.

The invention described in claim 21 is characterized by comprising a plurality of developing units for performing different developing processes for a substrate, respectively, and a replacing unit for replacing the solution component adhered to the developed substrate with a replacing solution, wherein each of the plural developing units includes: developing solution supply means; and rinse liquid supply means for supplying a rinse liquid to the substrate, wherein the replacing solution is different from the rinse liquid.

Because of this structure, since the solution component adhered to the substrate developed by the respective developing units is replaced with the replacing solution, which is different from the rinse liquid, by the replacing unit, the common transport unit and high-pressure processing unit can be used with respect to the plurality of developing units.

In Inoue et al., a substrate is loaded to a transferable vessel 6 in the wet condition with rinse liquid, and the whole vessel 6, with the substrate, is transferred to a drying apparatus 2 (Fig. 3, paragraphs 55-56).

Therefore, regarding the structure, the invention described in Inoue et al. is completely different from the present invention in which the substrate is transported to the replacing unit and transported to the high-pressure processing unit. That is, according to the cited invention, the substrate is loaded to the transferable vessel 6 in the wet condition with the rinse liquid, so it is

not true that the rinse liquid is replaced with the replacing solution. Further, as the whole vessel 6 is transferred to the drying apparatus 2, the vessel 6 is completely different from the "replacing unit" of the present invention.

Because of this, the transport unit described in Inoue et al. is different from that of the present invention on the point that a vessel holding portion for transferring the vessel 6 is required in addition to a wafer holding portion for transferring the substrate (paragraph 56).

Therefore, allowance of claims 21-24 is requested.

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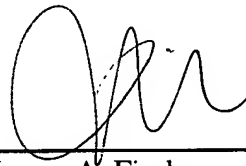
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